where,

k_f is the thermal conductivity of the selected fin material, Btu/ft s °F

δ_f is the fin thickness, ft

h is the convective heat transfer coefficient for the foam-filled space bounded by the fins and the heat spreader plate, Btu/ft^2 s °F, and where h is given by the formula,

$$h = 1.2704\left[\frac{n^{0.50}}{(1-\phi)^{0.25}}\right]\left(\frac{\rho^{0.50}k^{0.63}c_p^{0.37}}{\mu^{0.13}}\right)u_m^{0.50} \qquad (2)$$

A1

where,

n is the linear density of the foam block or blocks, pores per ft

ϕ is the porosity of the foam block or blocks, expressed as a fraction

ρ is the density of the cooling fluid that passes across the fins, lb_m/ft^3

k is the thermal conductivity of the cooling fluid, Btu/ft s °F

c_p is the isobaric specific heat of the cooling fluid, Btu/lb_m °F

μ is the dynamic viscosity of the cooling fluid, lb_m/ft s

u_m is the mean velocity of the cooling fluid, ft/s.

On page 8, please replace the second full paragraph (which begins with "Based on heat transfer considerations…") with the following:

Based on heat transfer considerations, the minimum fin spacing δ is determined by the relation,

$$\delta = 7.32\sqrt{\frac{kc}{\rho c_p u_m}} \qquad (4)$$

A2

where,

c is the fin length in the flow direction (as shown in Fig. 26), ft

k is the thermal conductivity of the cooling fluid, Btu/ft s °F